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Task appraisals, emotions, and performance goal orientation

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We predict real-time fluctuations in employees' positive and negative emotions from concurrent appraisals of the immediate task situation and individual differences in performance goal orientation. Task importance, positive emotions, and negative emotions were assessed five times per day for three weeks in an experience sampling study of 135 managers. At the within-person level, appraisals of task importance, task confidence, and their interaction predicted momentary positive and negative emotions as hypothesized. Dispositional performance goal orientation was expected to moderate emotional reactivity to appraisals of task confidence and task importance. The hypothesized relationships were significant in the case of appraisals of task importance. Further, those high on performance goal orientation reacted to appraisals of task importance with stronger negative and weaker positive emotions than those low on performance goal orientation.

Keywords: Emotions at work, Goal orientation, Appraisal theory, Affective Events Theory, Control Value Theory

We know that real time moods and emotions vary substantially within-person over time while working (e.g. Fisher & Noble, 2004; Judge, Scott, & Ilies, 2006). What is less well understood is exactly how, why, and for whom these fluctuations occur. Why does an employee

experience more positive or negative emotions at some moments than at others? Why do two employees facing similar situations feel differently? Appraisal theories of emotion (Scherer, Schorr & Johnstone, 2001) and Affective Events Theory (Weiss & Cropanzano, 1996) suggest that momentary emotions are largely caused by individuals' appraisals of aspects of concurrent events, possibly conditioned by traits that influence how similar situations are interpreted and valued differently by different people. This paper explores two appraisals thought to underlie positive and negative emotions while working, and the way that individual differences in performance goal orientation conditions affective reactivity to these appraisals.

Understanding the precursors of emotions in the workplace is useful because affect has important consequences (Barsade & Gibson, 2007; Fisher, 2010). Emotions are central to quality of worklife, and momentary affective experiences cumulate to influence overall well-being and job satisfaction (Fisher, 2000; Kahneman and Riis, 2005). Affect impacts organizationally relevant outcomes such as motivation, persistence, and engagement (Bledow, Schmitt, Frese, & Kuhnel, 2011; Erez & Isen, 2002; Seo, Barrett, & Bartunek, 2004), effort and proactivity (Foo, Uy, & Baron, 2009), goal setting (Ilies & Judge, 2005), creativity (Baas, De Dreu, & Nijstad, 2008), citizenship and counterproductive work behavior (Dalal, Lam, Weiss, Welch, & Hulin, 2009), and performance (Beal, Weiss, Barros, & MacDermid, 2005). In the education literature, strong consensus has emerged that achievement-related emotions are important predictors of the adoption of effective learning strategies and persistence, and that debilitating emotions can interfere with learning and performance (Tyson, Linnenbrink-Garcia, & Hill, 2009).

Understanding the appraisal antecedents of emotions is essential for interventions or self-regulatory efforts to reduce dysfunctional emotional experiences and the motivational and performance deficits that may follow (Goetz, Frenzel, Stoeger, & Hall, 2010).

This study makes two major contributions. First, we establish the ways in which real-time emotions at work fluctuate as a function of concurrent appraisals of task importance, task confidence, and their interaction, as proposed in Pekrun's Control Value Theory (2006). Second, we propose and find support for a new route by which dispositional performance goal orientation may impact emotions during task engagement: differential affective reactivity to appraisals of task importance. Previous research has focused on the main effects of performance goal orientation, which has led to the decontextualised view that performance orientation is related to dysfunctional emotions such as anxiety. However, individuals undertake both important and unimportant tasks and may feel more or less confident of their ability to succeed on a particular task. We suggest that habitual performance goal orientation influences affective reactivity to appraisals of relevant aspects of task situations.

This study employs experience sampling methodology (ESM, Beal & Weiss, 2003; Fisher & To, in press) to obtain reports of current task appraisals and emotions from managers five times per work day for three weeks. This approach has been recommended to generate more ecologically valid results than the retrospective or vignette-based methods more commonly used in appraisal research (Goetz et al., 2010; Nezlek, Vansteelandt, Mechelen, & Kuppens, 2008; Tong et al., 2005). The use of ESM to explore real-time emotional reactions to task appraisals at work is also consistent with recommendations by Grant, Fried, and Huillerat (2011) to extend job design research to consider employee reactions to short-term fluctuations in task properties.

Appraisal Theory

Appraisal theories specify that interpretations of events, rather than events themselves, give rise to emotions (Roseman, Spindel, & Jose, 1990; Scherer et al. 2001; Smith & Ellsworth, 1985; Siemer, Mauss, & Gross, 2007; Smith and Lazarus, 1993). Pekrun's (2006) Control Value Theory identifies two key appraisals for the emotions experienced during achievement striving.

These are *subjective control*, defined as the belief that one can succeed on the task, and *subjective value*, which is the perceived importance of succeeding on the task. Specific hypotheses for each appraisal and their interaction are discussed below.

Task confidence. Control Value Theory suggests that, “emotional intensity increases with increasing controllability (in positive emotions) or uncontrollability (in negative emotions)” (Pekrun, Frenzel, Goetz, & Perry, 2007, p. 22). Individuals should feel stronger positive emotions when they are confident that they can successfully complete the task on which they are working, and stronger negative emotions when they are less confident. This prediction is consistent with research showing that appraisals of problem-focused coping potential are positively related to feelings of hope/challenge and negatively related to feelings of sadness (Smith, Haynes, Lazarus, & Pope, 1993), and that appraisals of perceived control positively predict happiness, pride, and contentment (Goetz et al., 2010). Social learning theory also suggests that high self-efficacy reduces the negative emotion of anxiety (Bandura, 1997).

Hypothesis 1: Within-person, appraisals of task confidence will be positively related to positive emotions and negatively related to negative emotions.

Task importance. The task design literature suggests that it is more enjoyable to work on tasks that are significant rather than unimportant or meaningless (Fried & Ferris, 1987; Humphrey, Nahrgang, & Morgeson, 2007), so task importance may positively predict positive emotions. However, more important tasks present both challenges and risks, and such stressors can have both positive and negative affective consequences including anxiety (Podsakoff, LePine, & LePine, 2007). In general appraisal theory, appraisals of goal relevance such as task importance are theorized to increase emotional intensity, whereas emotion valence may depend on other appraisals (Smith & Kirby, 2009). Certainly the arousal component of emotions of

either valence should be enhanced by task importance. Thus, it is likely that tasks on which it is more important to succeed will arouse stronger emotions of both positive and negative valence.

Hypothesis 2: Within-person, appraisals of task importance will be positively related to both positive and negative emotions.

Task confidence X task importance. Appraisal theory suggests that combinations of appraisals are important in the prediction of emotions (Tong, et al., 2007), and that interactions among relevant appraisals should account for additional variance beyond the main effect of each appraisal (Goetz et al., 2010). In particular, the goal relevance or importance of an event is expected to magnify the effects of other relevant appraisals on emotions (e.g. Lazarus, 1991; Pekrun et al., 2007). Goetz et al. (2010) showed that the relationships between appraisals of control (task confidence) and three specific positive emotions were stronger when the task was important rather than unimportant to respondents in an experience sampling study of students. We similarly expect that task importance will moderate relationships between task confidence and emotions while undertaking work tasks.

Hypothesis 3: Within-person, task importance will moderate the relationships of task confidence to positive and negative emotions such that confidence will be more strongly and positively related to positive emotions, and more strongly and negatively related to negative emotions, when importance is high rather than low.

Performance Goal Orientation, Emotions, and Appraisals

Do all employees have the same emotional response to the same appraisals of task confidence and task importance? Structural theories of appraisal propose strong and invariant relationships between appraisals and emotions, with all individuals expected to experience the same emotions following the same appraisals. While this describes general tendencies, recent research suggests that individual differences may sometimes moderate the strength of appraisal-

emotion relationships (Kuppens, Van Mechelen, Smits, De Boeck, & Ceulemans, 2007; Nezlek et al., 2008; Tong, 2010a).

Frijda's first law of emotions states that, "Events that satisfy the individual's goals, or promise to do so, yield positive emotions; events that harm or threaten the individual's concerns lead to negative emotions" (1988, p. 349), while his second law states that, "Emotions arise in response to events that are important to the individual's goals, motives, or concerns." (p. 351). It is possible that an individual's appraisals of his or her immediate task situation may differentially trigger emotions depending on the goals he or she habitually pursues in the workplace, and whether the current situation is seen as likely to satisfy or harm those superordinate goals.

Given that being evaluated by others at work is both common and consequential, an individual difference that seems relevant to emotions while working is trait performance goal orientation (PGO, Dweck & Leggett, 1988). Performance goal orientation involves a chronic tendency to pursue a goal of demonstrating competence or avoiding the demonstration of incompetence to others. Performance goal orientation is associated with an entity theory of intelligence, or the belief that abilities are fixed rather than malleable. Thus, poor performance suggests enduring lack of ability and threatens self-esteem as well as frustrating the goal of appearing competent to others (Dweck & Leggett, 1988). Performance goal orientation has been operationalized at trait and state levels, but in this study will be treated as a relatively stable disposition representing chronic activation of the goal of demonstrating competence/avoiding demonstrating incompetence at work (DeShon & Gillespie, 2005). Performance goal orientation is sometimes divided into performance approach (seeking to display competence) and performance avoid (avoiding displaying incompetence). These dimensions are moderately positively correlated (Payne, Youngcourt, & Beaubien, 2007), are both related to anxiety in achievement situations (Payne, et al., 2007), and are both positively related to fear of failure

(Elliot & Church, 1997). The common core of meaning underlying both performance approach and avoid orientations should act in the same way to magnify the impact of task confidence and importance on emotions by raising the potential appearance gains or losses of task engagement. Therefore, we adopt Dweck and Leggett's original broad conceptualization of performance goal orientation as concern with appearance to others, incorporating both approach and avoidance.

The main effects of PGO on emotions have been investigated at some length in the education literature (e.g. Linnenbrink & Pintrich, 2002; Tyson et al., 2009). Although the maladaptive emotions of anxiety and sadness are not uncommon outcomes of adopting performance goals (Dweck & Leggett, 1988; Linnenbrink & Pintrich, 2002; Tyson et al., 2009), relationships between trait performance goal orientation and affective outcomes have not been as strong or consistent as might be expected (Cellar et al., 2011). Dividing PGO into approach and avoid dimensions has not resolved the inconsistencies (Tyson et al., 2009). The weak main effects of performance goals on emotions may be a result of ignoring more proximal appraisals of the situation that bear on the likelihood and cost of task success or failure. Hence we propose that trait PGO will moderate the within-person relationships between appraisals of task confidence and task importance and positive and negative emotions.

Performance goal orientation and task confidence. Individuals high on PGO tend to choose tasks on which they expect to do well in order to demonstrate competence (Tabernero & Wood, 2009; Tyson et al., 2009). When confronted with the need to complete a work task on which they are less confident, these individuals may be especially likely to experience negative emotions as they contemplate the possibility of failure and the permanent indictment of ability that it signals. Individuals who are less concerned about the impression they make on others and who do not hold an entity view of ability may respond to situations of low confidence with less intense negative emotions because less is at stake. Turning to positive emotions, even in the case

of high confidence and likely successful performance, Linnenbrink and Pintrich (2002, p. 73) suggest that, “the idea of putting one’s ability on the line may dampen positive affect” for those high on PGO. This is consistent with Higgins’ Regulatory Focus Theory, which predicts intense positive emotions such as elation and joy when those pursuing internally-focused promotion goals are successful, but weaker positive emotions such as calmness or relief when success comes to those pursuing externally-focused prevention goals (e.g. Brockner & Higgins, 2001).

Hypothesis 4: Performance goal orientation will moderate within-person relationships between appraisals of task confidence and positive and negative emotions. The relationship between task confidence and positive emotions will be weaker and the relationship between task confidence and negative emotions will be stronger for those high rather than low on PGO.

Performance goal orientation and task importance. Performance goal orientation may moderate the relationship between task importance and positive and negative emotions for two reasons. First, the reputational cost of failure and the likelihood of being noticed by evaluators are greater for more important tasks, suggesting stronger negative emotions for those most sensitive to preserving an image of competence. The greater risks involved may also dampen positive emotions even if success occurs. Second, it seems likely that appraising a task as more important would activate state performance goal orientation in those who are dispositionally high on PGO, by highlighting the substantial implications of performance for their appearance to others (Tett & Burnett, 2003; Tett & Guterman, 2000). Information on task importance has occasionally been used in laboratory studies as part of a manipulation to induce state performance goals (e.g. Steele-Johnson, Heintz, & Miller, 2008). A stronger transient state of performance orientation should further heighten negative and dampen positive emotions.

Hypothesis 5: Performance goal orientation will moderate within-person relationships between appraisals of task importance and positive and negative emotions. The relationship between task importance and positive emotions will be weaker and the relationship between task importance and negative emotions will be stronger for those high rather than low on performance goal orientation.

Performance goal orientation and task confidence X task importance. A two way interaction between confidence and importance has been hypothesized (H3), with confidence being more strongly and positively related to positive emotions, and more strongly and negatively related to negative emotions, when task importance is high rather than low. This pattern should be even more pronounced among high PGO individuals who are habitually concerned about the impression their performance makes on others.

Hypothesis 6: There will be a three way (cross-level) interaction between performance goal orientation, task confidence, and task importance.

Method

Participants and Procedure

Participants were 135 middle managers from five large multinational companies in the airline, banking, broadcasting, insurance, and packaging industries. Their average age was 34 years with a range from 24 to 52. Forty percent were female. Thirty percent had postgraduate degrees, forty three percent had undergraduate degrees, and the remainder had high school or other educational credentials. Participants had been selected by their organizations to participate in a management development program lasting two years and featuring several periods of concentrated classroom work as well as regular workplace activities.

Participants completed the measure of goal orientation at the start of the program. Seven to twelve months later each participated in the experience sampling phase while working in their

regular jobs. They were signaled at random intervals by a handheld computer five times each workday for three weeks. At each signal, participants had up to 30 minutes to respond to a short survey asking for the momentary task appraisals and emotions reported in this paper as well as responses to a number of other questions not relevant to this study. A total of 5352 signal level reports were received, for a response rate of 53%. Respondents indicated whether they had been performing a work task or a nonwork task when signaled. Reports for non-work tasks were dropped, leaving a total of 4,172 reports, an average of 30.9 per person.

Measures

Emotions and appraisals. Respondents rated their current emotions at each signal. Coefficient alphas were calculated at each reporting time and averaged across reports. Positive emotions were happy, content, and enthused (alpha .80). Negative emotions were stressed, tense, sad, and frustrated (alpha .81). Appraisals of the current task situation were measured with one item each. The items were: “How important is it that you complete this task effectively?” and “How confident are you that you can complete this task effectively?” Single items are commonly used in ESM studies to reduce response burden, and “single items are standard practice in appraisal studies” (Tong, 2010b, p. 694). Seven point response scales anchored 0= “not at all” and 6= “extremely” were used for both emotions and appraisals.

Goal orientation. The refined VandeWalle (1997) measure of work domain goal orientation was used. Responses were made on a visual analog (slider) scale anchored at 0 = strongly disagree and 100 = strongly agree. Performance goal orientation was measured by combining the four item performance approach and four item performance avoid subscales (alpha .75). Sample items include, “I enjoy it when others at work are aware of how well I am doing” and “I prefer to avoid situations at work where I might perform poorly.” Mastery goal orientation was measured and used as a control variable in the analyses (alpha .79)ⁱ.

Results

Hierarchical Linear Modeling (HLM, Raudenbush & Bryk, 2002) was used to test all hypotheses. Level 1 variables were appraisals and emotions measured at each signal for each participant. Level 2 variables were dispositional performance and mastery goal orientations measured once for each participant. Level 1 predictors were group mean centered and level 2 predictors were grand mean centered in all analyses. The first analyses conducted were random effects ANOVAs on all level 1 variables, to determine the percent of variance in appraisals and emotions that was within-person versus between-persons. In all cases, there was substantial and significant variation at both levels, indicating that multi-level analyses were appropriate. Table 1 shows descriptive statistics and between- and within-person correlations.

Appraisal Emotion Relationships

Hypotheses about the relationships of appraisals and their interaction to emotions were assessed by HLM random coefficients regressions. A lagged score on the dependent variable (the same emotion in the previous period) was also entered to control for autocorrelation. Results for the models containing the appraisals and their interaction as level 1 predictors can be found in models 2 and 3 in Table 2 (positive emotions) and Table 3 (negative emotions). Task confidence was positively related to positive emotions and negatively related to negative emotions, as specified in hypothesis 1. Task importance positively predicted both positive and negative emotions, supporting hypothesis 2.

Hypothesis 3 suggested that task importance would magnify the effects of task confidence on emotions. This was tested by regressing each emotion on lagged emotion, group mean centered importance and confidence, and the product of the centered appraisals. Interaction terms were significant for both positive and negative emotions. Deviance tests indicated that the addition of the interaction term significantly reduced unexplained variance for both positive ($X^2 =$

27.13, $df = 5$, $p < .001$) and negative ($X^2 = 15.79$, $df = 5$, $p < .01$) emotions. Simple slopes were plotted as recommended by Aiken and West (1991). Task confidence was more strongly and positively related to positive emotions when task importance was high (slope = .28, $t = 10.72$, $p < .001$) than when it was low (slope = .19, $t = 7.19$, $p < .001$) (Figure 1). Task confidence was more strongly and negatively related to negative emotions when task importance was high (slope = -.40, $t = -15.75$, $p < .001$) than when it was low (slope = -.28, $t = -8.91$, $p < .001$) (Figure 2).

Collectively, the two appraisals and their interaction accounted for 13.7% and 19.8% of the within-person variance in positive and negative emotions, respectively, beyond lagged emotions. Although significant, the interactions accounted for relatively little of the variance in positive (1.3%) and negative (.4%) emotions compared to the substantial main effects of the appraisals. While hypothesis 3 was supported, the effects of appraisals on emotions were predominantly additive rather than multiplicative, with the effects of task confidence being especially strong.

Performance Goal Orientation, Emotions, and Appraisals

Hypotheses 4 and 5 suggested that PGO would moderate within-person relationships between appraisals of task confidence and task importance and emotions. HLM intercepts and slopes as outcomes regressions were performed, predicting positive and negative emotions from lagged emotion, group mean centered appraisals (level 1), and grand mean centered performance and mastery goal orientations (level 2). Results are shown in model 4 of Tables 2 and 3.

Hypothesis 4 was not supported. PGO was not a significant moderator of the relationship between task confidence and either positive or negative emotions. Hypothesis 5 was supported, as appraisals of task importance interacted with PGO significantly to predict both positive and negative emotions. Goal orientations accounted for 5.9% of the variance in the task importance – positive emotion slopes. Task importance was unrelated to positive emotions for those high on PGO (slope = .03, $t = 1.65$, $df = 132$, ns) but positively related to positive emotions for those low on

PGO (slope = .11, $t=4.92$, $p<.001$) (Figure 3). Goal orientations account for 9.9 % of the variance in the task importance – negative emotion slopes. Task importance was more strongly related to negative emotions for those high on PGO (slope = .21, $t=9.13$, $p<.001$) than those low on PGO (slope = .13, $t=5.42$, $p<.001$) (Figure 4). In sum, those high on PGO displayed less functional (more negative, less positive) emotional responses to task importance.

Hypothesis 6 suggested a three way interaction between confidence, importance, and performance goal orientation. In the case of negative emotions, the hypothesis could not be tested because the residual variance in the importance X confidence slopes predicting negative emotions was not significant. In the case of positive emotions, the hypothesized three way interaction was tested but was not significant ($t= -1.104$).

Discussion

We established direct and interactive within-person relationships between employee appraisals of task importance and confidence and the concurrent experience of positive and negative emotions. These findings are consistent with the structural invariance perspective in appraisal theories of emotion, with the predictions of Control Value Theory about the appraisals that matter in achievement settings, and with Affective Events Theory. We also hypothesized and found that individual differences in performance goal orientation explain between-person differences in emotional reactivity to task importance, which supports the emerging individual differences perspective in appraisal theory (e.g. Kuppens et al., 2007).

There were sizable relationships between task confidence and emotions, not moderated by PGO. It seems that high/low task confidence is unambiguously pleasant/unpleasant and has similar relationships with emotions regardless of goal orientation. Appraisals of task importance played a more complex role. At level 1, task importance was positively associated with both positive and negative emotions, and interacted with task confidence as expected. Individuals

seemed to be more affectively reactive to appraisals of task confidence when tasks were more important. At level 2, PGO was expected to moderate relationships between appraisals and emotions. Consistent with Dweck and Leggett's (1988) conceptualization of the helpless response pattern, those high on PGO experienced less functional emotions when task importance was high. They displayed a stronger positive relationship between task importance and negative emotions and a non-significant relationship between task importance and positive emotions, apparently being unable to mobilize pleasant arousal in the face of the potential threat to their goal of looking competent posed by more important tasks. In contrast, those low on PGO showed a more resilient pattern of emotional responding to task importance. They experienced more positive emotions and were more resistant to negative emotions than low PGO individuals when tasks were more important. Past research has shown that PGO is sometimes associated with the experience of negative emotions. Our findings suggest a new mechanism for this effect – increased emotional reactivity to appraisals of potentially threatening task characteristics, in this case, task importance. Important tasks may be seen as anxiety-provoking situations with the potential for reputation damage to those high on PGO, or alternatively as exciting challenges with fewer social costs to those low on PGO.

Limitations

Both appraisals and emotions were measured variables, so it is not possible to state with certainty that appraisals caused emotions. However, Roseman and Smith (2001, p. 7) note that a fundamental tenet of appraisal theory is that “appraisals precede and elicit emotions.” Past experimental work in which appraisals have been manipulated and emotions measured supports a causal role for appraisals (e.g. Roseman 1991; Roseman & Evdokas, 2004; Siemer et al., 2007; Smith and Lazarus 1993; Weiner, Graham, & Chandler 1982). Indirect support for the causal

role of appraisals in this study is found in the successful level 1 and level 2 interaction predictions, which are logically consistent with appraisals being antecedents of emotions.

Another concern is that emotions and appraisals were reported at the same time and by the same source. There is no sound theoretical alternative, as appraisals are thought to occur nearly instantaneous with the emotions they cause and participants are the only credible source of both appraisals (subjective interpretations of situations) and of emotional experiences. Common method bias is unlikely to have undermined our conclusions for several reasons. First, the dependent variable was current emotion controlling for emotion in the previous period. Second, the variables used were a small subset of all items on the ESM survey, making hypothesis guessing and demand characteristics unlikely. Third, accuracy of self-reports of transient states is a particular strength of experience sampling methodology (Robinson & Clore, 2002). Finally, PGO was measured at a different time, more than half a year prior to the ESM period, yet predicted the strength of relationships between appraisals of task importance and emotions.

Implications

There is convincing evidence that positive affect is causally implicated in many desirable outcomes for organizations and for individuals (e.g. Cohn, Fredrickson, Brown, Mikels, & Conway, 2009; Fredrickson & Losada, 2005; Lyubomirsky, King & Diener, 2005). While negative emotions can be helpful in signaling the need for corrective action, sustained or frequent negative affect impairs self-regulation, leads to self-defeating behavior (Baumeister, Zell, & Tice, 2011), and impedes task engagement and achievement (Tyson et al., 2009). Thus, it may be in organizations' and individuals' interests to encourage positive emotional experiences while working, to reduce the occurrence of negative emotions, and to cultivate the capacity of employees to shift from negative to positive affect (Bledow et al., 2011). Tyson et al. (2009)

suggest that the ability to regulate emotions may be especially helpful for those high on PGO, who are more likely to experience debilitating emotions in achievement settings.

Once we understand the cognitive appraisal antecedents of emotions, we are better positioned to suggest how emotions might be fostered or regulated via the manipulation of relevant appraisals (Goetz et al., 2010). If there are interactions between two appraisals, maximum impact will be obtained by operating on both appraisals rather than one alone. Our findings suggest three potential leverage points for enhancing emotional experiences while working: modifying appraisals of task confidence, modifying appraisals of task importance, and modifying state goal orientation. These leverage points could be applied by managers to their subordinates or by employees to themselves to regulate emotions during task engagement.

Appraisals of confidence are consistently positively related to positive emotions and negatively related to negative emotions so are appealing targets for interventions. Confidence might be lifted by setting short term achievable goals enabling positive feedback on small wins as well as applying other proven means of increasing task-specific self-efficacy (e.g. modeling, enactive mastery, persuasion, encouraging unstable attributions for failure, Bandura, 1997; Gist & Mitchell, 1992). Task importance is positively related to negative emotions, but may have offsetting effects by arousing positive emotions among those low on PGO. However, task importance predicted only negative emotions among those high on PGO. When particularly important tasks are assigned to high PGO individuals, the above mentioned strategy of setting achievable subgoals might also reduce the importance and potential image risk associated with effort on any single subgoal, resulting in more positive and fewer negative emotions among these vulnerable individuals.

While trait rather than state PGO was investigated in this study, it is likely that traits operate through analogous states (Breland & Donovan, 2005), particularly when the trait

tendency is activated by a trait-relevant situation (Tett & Burnett, 2003; Tett & Guterman, 2000).

While trait PGO may not be amenable to change, it may be possible to reduce the transient activation of state PGO in specific situations by reducing task importance as mentioned above, emphasizing self assessment against one's own goals, and minimizing the use of comparative feedback and evaluation by or against others (Steele-Johnson et al., 2008; Tyson et al. 2009).

The efficacy of interventions aimed at changing appraisals in order to change emotions at work awaits future research. However, some indirect evidence that improved outcomes may be attained by acting on cognitive appraisals is supplied by Proudfoot, Corr, Guest, and Dunn (2009). They reported that a cognitive-behavioural training intervention aimed at changing attributional style improved job satisfaction, self-esteem, psychological well-being, and productivity, as well as reduced turnover in a sample of highly stressed sales people. A further reason to consider efforts to modify appraisals is found in recent evidence that appraisals are linked, via emotions, to choices of coping strategies (Schmidt, Tinti, Levin, & Testa, 2010). In a study of students facing exams, when the exam was seen as important and confidence was high, positive emotions were experienced and individuals were more likely to choose the functional emotion regulation strategies of problem focused coping and reappraisal (Gross & John, 2003). When importance was high but confidence was low, less functional strategies such as suppression and drug taking were more likely.

This study was about emotions occurring at the same time as a task was being undertaken. However, individuals also feel anticipatory emotions about future events (e.g. hope, dread) as well as cognitively anticipating the emotions they might feel should an event come to pass (e.g. joy, shame). These anticipatory and anticipated emotions influence both behavioral intentions and behavior (Bagozzi, Baumgartner & Pieters, 1998; Baumgartner, Pieters, & Bagozzi, 2008). Fisher (2008) suggested that "prospective emotions about future performance events probably

depend on both self-efficacy and the importance of performing well” – the same appraisals found to predict emotions about the current task in this study. Regulating these appraisals and subsequent future-oriented emotions with respect to tasks on an employee’s “to-do” list may have important effects on task choice, procrastination, and eventual effort, persistence, and performance. Further research is required to establish whether interventions focused on appraisals of task confidence, task importance, and/or state PGO can influence emotions and behavior with respect to current and future work tasks.

In sum, predictors of within-person fluctuation in emotions during achievement striving may be very important in understanding the moment to moment motivation, persistence, and affective well-being of employees. Cumulated over time, momentary emotional reactions to appraisals have the potential to impact important longer term individual and organizational outcomes. Understanding which appraisals are associated with which emotions, and for whom, raises the possibility of organizational interventions as well as self-regulatory efforts to reduce debilitating emotions and foster beneficial emotions at work.

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Table 1

Within and Between Person Correlations and Descriptive Statistics

				1	2	3	4	5
% variance that is within-person				76.3%	72.2%	50.8%	53.9%	
		Mean	SD					
1	Task Importance	4.77	1.15		.08**	.11**	.14**	
2	Task Confidence	4.83	.98	.55**		.25**	-.33**	
3	Positive Emotions	3.76	1.11	.54**	.61**		-.45**	
4	Negative Emotions	1.57	1.22	-.37**	-.53**	-.70**		
5	Performance Goal	42.24	12.01	-.17*	-.18*	-.29**	.29**	
6	Mastery Goal	77.41	11.14	.18*	.26**	.26**	-.23*	-.35**

Average within-person correlations appear above the diagonal and are HLM regression coefficients computed from standardized scores, $N = 4,172$.

Between-persons correlations are below the diagonal, $N = 135$.

* $p < .05$, ** $p < .01$

Table 2
HLM Regression Models for Positive Emotions

	Model 1		Model 2		Model 3		Model 4	
	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>
Intercept (β_{00})	3.69	54.33***	3.69	54.87***	3.69	54.60***	3.69	57.95***
Lagged positive emotions (β_{10})	.163	9.01***	.141	8.44***	.14	8.56***	.138	8.42***
Task confidence (β_{20})			.248	12.03***	.235	12.32***	.234	12.31***
Task importance (β_{30})			.067	4.36***	.069	4.52***	.072	8.42***
Confidence x importance (β_{40})					.041	2.26*	.037	2.05*
Level 1 variance accounted for	5.2%		17.6%		18.9%			
Mastery goal (β_{01})							.015	2.53*
Mastery x confidence (β_{21})							.001	.54
Mastery x importance (β_{31})							-.002	-1.42
Performance goal (β_{02})							-.014	-2.84**
Performance x confidence (β_{22})							.001	.72
Performance x importance (β_{32})							-.003	-2.50*

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 3
HLM Regression Models for Negative Emotions

	Model 1		Model 2		Model 3		Model 4	
	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>
Intercept (β_{00})	1.65	21.94***	1.58	20.91***	1.58	20.89***	1.58	21.99***
Lagged negative emotions (β_{10})	.188	9.62***	.151	8.35***	.152	8.50***	.152	8.54***
Task confidence (β_{20})			-.361	-15.74***	-.341	-14.37***	-.341	-14.42***
Task importance (β_{30})			.167	9.64***	.170	10.03***	.168	10.13***
Confidence x importance (β_{40})					-.057	-3.46***	-.057	-3.67***
Level 1 variance accounted for	7.2%		26.6%		27.0%			
Mastery goal (β_{01})							-.012	-1.86
Mastery x confidence (β_{21})							.000	-.18
Mastery x importance (β_{31})							-.002	-1.07
Performance goal (β_{02})							.014	2.53*
Performance x confidence (β_{22})							.001	.59
Performance x importance (β_{32})							-.003	2.44*

* $p < .05$ *** $p < .001$

Figure 1. Level 1 Interaction between Task Importance and Confidence Predicting Positive Emotions

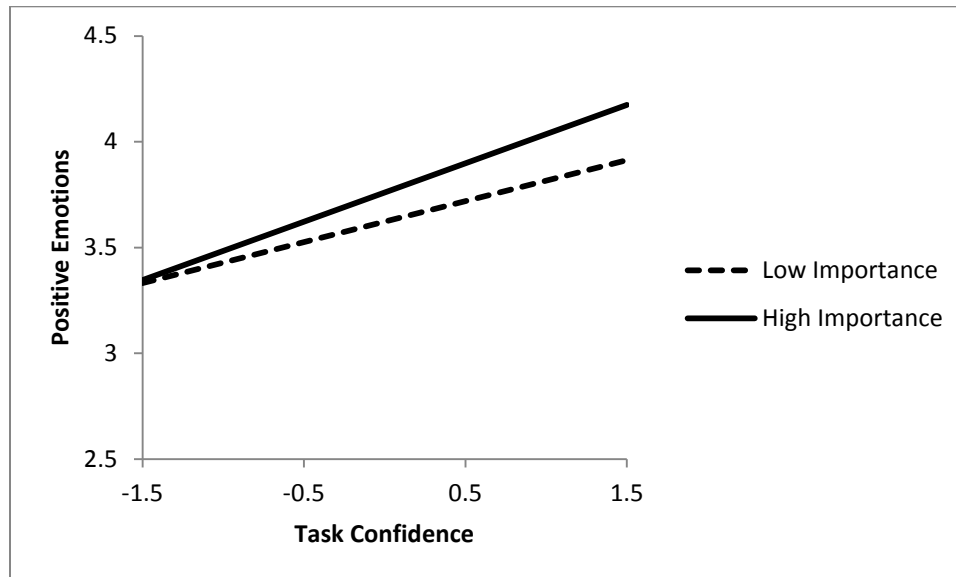


Figure 2. Level 1 Interaction between Task Importance and Confidence Predicting Negative Emotions

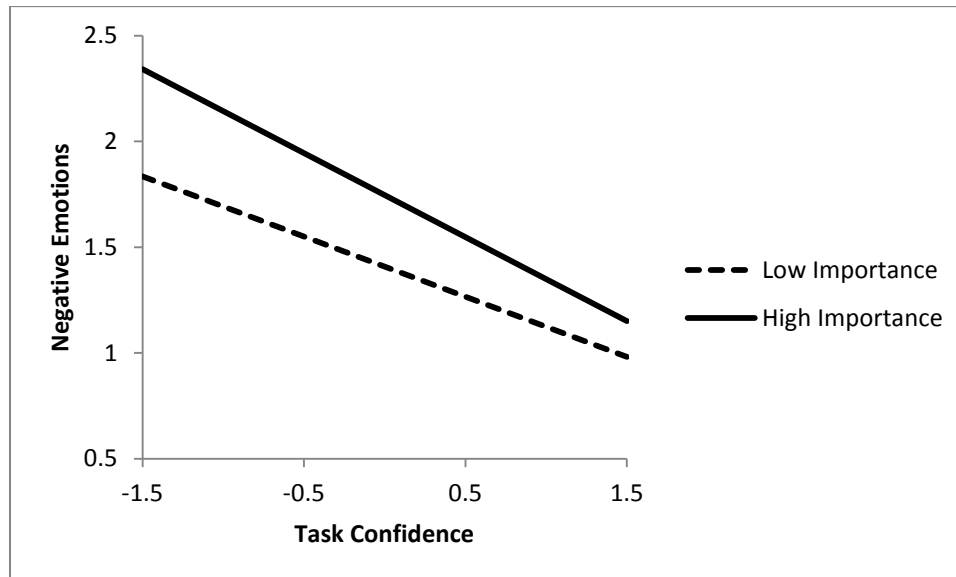


Figure 3. Cross-Level Interaction between Task Importance and Performance Goal Orientation Predicting Positive Emotions

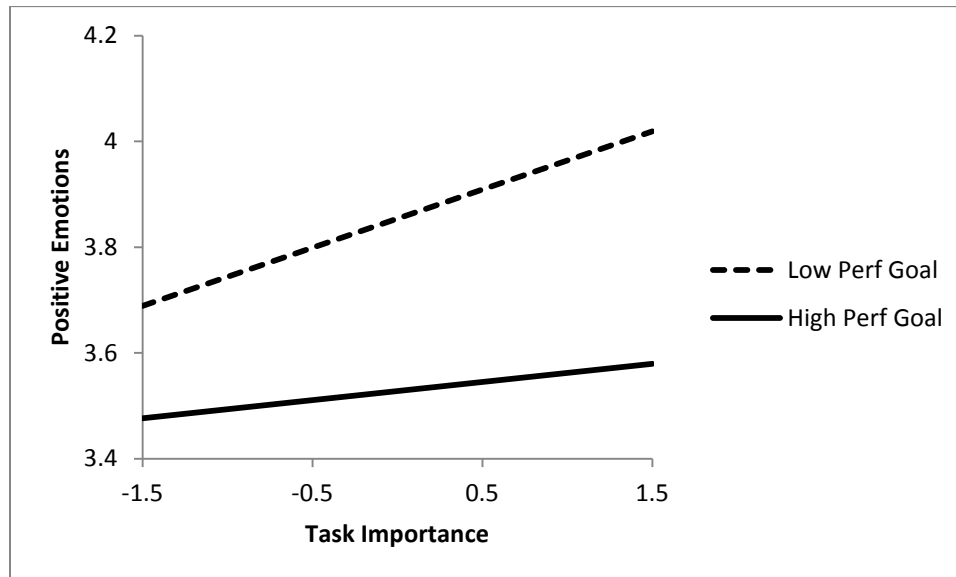
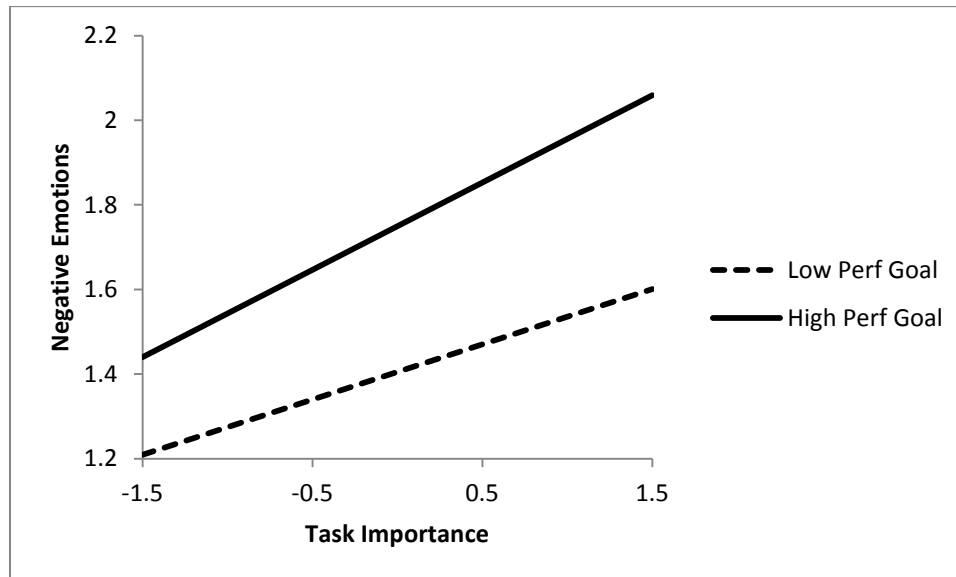


Figure 4. Cross-Level Interaction between Task Importance and Performance Goal Orientation Predicting Negative Emotions



End note

¹ Because mastery goal orientation was correlated with performance goal orientation in this study (and in meta-analyses), it was included as a control to isolate the effect of performance goal orientation. Note that mastery goal orientation was not hypothesized to moderate affective reactivity to task confidence or importance, as those concerned with increasing their skills rather than maintaining the appearance of competence tend to be resilient to performance setbacks and should be relatively unfazed by task importance.